November 2017

SASTA

Newsletter of the South Australian Science Teachers Association Inc.

Latest Events

For the latest events and Conference information go to SASTA's website: **www.sasta.asn.au**

For information about science competitions go to: **www.oliphantscienceawards.com.au**

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Annual Conference - Call for Workshop Presenters

The next Annual Conference & Expo will be held on Monday 16 & Tuesday 17 April 2018 at Adelaide High School. See page 10 for more details.

Resources

Stage 2 Workbooks and Study Guides are now available to pre-order for 2018. See pages 14-16 for more details on 2018 resources or visit www.sasta.asn.au/resources to order online.

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Follow us on Twitter @SAScience

South Australian Science Teachers Association Inc.

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Member of the Australian Science Teachers Association (ASTA)

Supporting Teachers of Science | Advancing Science Education

SASTA South Australian Science Teachers Association

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Newsletter copy deadlines 2018

(Advertising deadlines one week earlier)

Edition	Deadline
February	11 January
May	11 April
August	11 July
November	10 October

Advertising

Advertising rates & booking form available online at www.sasta.asn.au

Views expressed in this newsletter are not necessarily those of SASTA or the editors. Whilst every effort is made to be factual, no liability is accepted for the accuracy of information presented.

 All contributions should be emailed to eo@sasta.asn.au

Adhering to the following guidelines would be appreciated:

- Save as a Microsoft Word document
- Tables to be set up as text with one tab between columns and a return at the end of each row.
- For spelling please use the Macquarie Dictionary and where several alternatives are listed, use the first. The exception to this is when you are citing, referencing or quoting directly from a source which uses alternative spelling.
- Photographs should be high quality untouched digital photographs.

From the President

Welcome to term 4! Yet what a way to complete term 3, with the 68th International Astronautical Congress being held in Adelaide from 25th-29th September.

The program commenced with a vivid presentation by a talented group of indigenous Kaurna people, whose intricate dancing culminated in the lighting of a fire using traditional methods of fire lighting as a welcome to the more than 4000 international Congress registrants. Their welcome was followed by an atmospheric rendition of "Jupiter" by the Adelaide Youth Orchestra.

The Honourable Simon Birmingham generated considerable excitement when he announced the forthcoming Australian Space Agency.

What a rich and varied program was presented, including internationally renowned speakers including Elon Musk, and a unique Technical programme. Over 1750 authors from 70 countries worldwide presented their latest research, newest innovations and their vision for the future of space.

The Technical program contained 179 sessions covering all aspects of space, 13 keynote lectures, 1600 oral presentations, 400 interactive presentations, an Interactive Presentations Award Ceremony and Student Competition.

The Mike Roach Space Centre was officially opened on Thursday 28th September. The Opening was conducted by the Education Minister Dr Susan Close MP, with special guests Shuttle Commander Pamela Melroy, and South Australia's very own legendary astronaut Andy Thomas.

The Department of Education and Child Development hosted a display advertising the newly opened Mike Roach Space Centre at Hamilton Secondary College. The Mars Room there can be experienced by students as if they were astronauts visiting Mars. Students can walk around a specially designed and constructed Martian landscape, including some very impressive basalt features, while wearing NASA space suits for their designated mission. The lighting mimics the colour and timing of a Martian day, lending the students' missions additional authenticity.

Space Guy Bill Nye was also an entertaining and informative highlight, as he reminded us to create a striking logo for the new Australian Space Agency.

The Late Breaking News Plenary gave stunning visualisations of the proposed Deep Space Gateway which would be orbiting the moon, from which to launch future space explorations.

With the emerging need to balance the requirements for space safety with space security, and space traffic management system issues constituting an emerging problem, may I encourage everyone to watch that Space!

Vanessa Fay

2018 SASTA Awards

There are many great teachers out there that SASTA would like to acknowledge, but often they don't get nominated for Awards because teaching is a very busy job and people don't get the time to fill in nomination forms. **Start thinking now! Alert your Principal. There are a number of Awards for SASTA members.**

SASTA Medal

SASTA offers its members an award for excellent contribution to science education or teaching or both. The SASTA Medal is awarded to an individual who has made a significant contribution to SASTA and has been active in science education.

Credit Union SA / SASTA Outstanding Teacher Award for junior primary, primary, middle years and senior years teaching

The Outstanding Teacher Awards' recognise teachers' contributions to the education of students in science.

Helen Castle Memorial Scholarship

This Scholarship is in memory of Helen Castle, a dedicated and enthusiastic science teacher who tragically died during the Eyre Peninsula bush fires in 2005. The Scholarship is designed to assist country science teachers attend the SASTA Annual Conference and gain professional development to assist themselves and other country teachers to maintain a high standard of science teaching in country areas. Two (2) scholarships of $500 will be awarded to enable country based science teachers to attend the SASTA Annual Conference on Monday 16 & Tuesday 17 April 2018.

Nomination forms are available at www.sasta.asn.au.

Nominations close Friday 2 March 2018 at 4.00 pm

Hearty Congratulations to two SASTA Members

SASTA President recognised in AMSI 2017 Teaching Excellence Awards

Congratulations to SASTA President, Vanessa Fay, for her success in the recently awarded 2017 Teaching Excellence Awards. The Teaching Excellence Award winners were recognised by the Australian Mathematical Sciences Institute for using an array of innovative and engaging teaching methods. All the successful teachers were described as "going above and beyond the call of duty."

Vanessa, who is a teacher of Mathematics, Science and English, is currently at the Australian Science and Mathematics School in Bedford Park. She was recognised for her excellent work as a mentor, particularly for girls, who often lack confidence in their ability and have a tendency to underrate their progress and success. Vanessa was described as being highly enthusiastic, engaging and inclusive. Her enthusiasm was evidenced by the after-school maths club that she has been running for the last 3 years, and which is now so popular that she has had to cap membership numbers.

Hamilton Secondary College opens the Mike Roach Space Centre

The moment had come to unveil the plaque that named the amazing Space Centre being officially opened by Education Minister Dr Susan Close MP, at Hamilton Secondary College. We had already heard about the importance of STEM Education from South Australia's very own astronaut, Dr Andy Thomas, Hamilton Principal, Ms Peta Kourbelis, and of course Dr Close.

The facility will enable Space to be used as a relevant and exciting context for the teaching of STEM subjects. Soon, students will be operating their own space missions at Hamilton. They may become "astronauts" crawling over the red rocks and sand of the "Mars surface" or agents of Mission Control, directing robot rovers from a nearby control room. A science lab has been converted into three rooms; one simulates the Martian surface, one is a control room and the other is a briefing area. Year 7s from nearby primary schools and students from other sites will also have an opportunity to use the facilities through an outreach program.

And its name: the **Mike Roach Space Centre**, in recognition of the passion, drive, energy and enthusiasm that Mike has contributed over many, many years to bring this project to fruition. The fact that not one, but two former astronauts, Andy Thomas and Pam Melroy, took time out of their busy schedules while in Adelaide attending the International Astronautical Congress, to witness the opening, is a testament to the very high esteem in which Mike is held by those in the business of Space Science.

Congratulations to Vanessa and Mike from all SASTA members for their amazing accomplishments and the honour that goes with them.

Dr Jane Wright

SASTA Board member

Term 4 Professional Learning

Science as a Human Endeavour Investigations for Stage 1 and 2 Sciences

Date: Thursday 16 November 2017

Time: 9.30am - 1.00pm

Venue: Education Development Centre, Hindmarsh

Presenters: Glen Arthur, Elizabeth Arthur, Oscar Oliver-Dearman

With the introduction of the new SACE Sciences curricula, Stage 1 2017 and Stage 2 2018, students of Physics, Chemistry and Biology must complete a Science as a Human Endeavour investigation as part of the assessment requirements for the Investigations Folio. This task differs in significant ways from the previous Issues Investigation.

This workshop will outline the requirements of the SHE task and will take teachers through construction of tasks at both Stage 1 and Stage 2 level. Sample tasks for each subject will be shared and an online sharing platform will be created for teachers to then add and share their own tasks.

Intended Audience: Stage 1 and 2 Physics, Biology and Chemistry teachers.

SACE Stage 2 Chemistry 2018 Practical Investigations

Date: Thursday 23 November 2017

Time: 9.30am - 3.00pm

Venue: Nazareth College, 1 Hartley Rd, Flinders Park SA 5025

Presenter: Glen Arthur

This workshop will explore the new requirements of the practical investigations component of the SACE Stage 2 Chemistry curriculum for 2018.

Overview

Assessment requirements for SACE Stage 2 Chemistry change in 2018 with the implementation of the new curriculum. The Investigations Folio must include practicals where students design and safely carry out investigations, and develop and extend their science inquiry skills by deconstructing the parts of a problem to determine the most appropriate method for investigation.

This workshop will explore the requirements of this new content of the practical investigations component of the course. In the afternoon teachers will complete an exemplar practical in the laboratory. At each stage of the day, teachers will be given guidance and resources to help them implement and assess this aspect of the Investigations Folio task.

Intended Audience: Stage 2 Chemistry teachers

SACE Stage 2 Biology - New Curriculum for 2018 (REPEAT Workshop)

Date: Monday 11th December 2017

Time: 9.00am - 3.00pm

Venue: Education Development Centre, Hindmarsh

Presenter: Dr Kathy Adams

This is a REPEAT of the workshop held on Tuesday 10 October 2017.

Biology in 2018 will be using the new SACE accredited subject outline. With some significant changes in both content and assessment requirements, this workshop will bring into focus some of these changes and provide some indication on the depth of understanding that will be needed by students. Suggestions for how to approach the new course, with useful resources, will be of particular emphasis in this workshop. Activities for teaching the new concepts will be modelled, to enable a hands-on experience for participants. The new topics of DNA and Proteins, Cells as the Basis of Life, Homeostasis and Evolution, include concepts that cover some of the latest technologies being used in Biology, which may be unfamiliar to some teachers and so these will be also be addressed. This workshop is intended to expand on the workshop given earlier in the year at the SASTA conference in April.

Intended Audience: Stage 2 Biology teachers

Stage 2 Exam Post Mortems

FREE to attend; no booking required

Biology

When: Monday 6th November 2017 - 6.30pm for a 7.00pm start.

Where: Pembroke School (Potts Lecture Theatre)

18 Holden Street, Kensington Park

Chemistry

When: Wednesday 15th November 2017 - 6.30pm for a 7.00pm start.

Where: Roma Mitchell Secondary College (The Performing Arts Centre, Level 1)

Briens Road, Gepps Cross

Please note: there will be no Physics Exam Post Mortem this year.

STEM 6-11 Conference

Friday 1 December 2017
Australian Science and Mathematics School

The South Australian Science Teachers Association in conjunction with the Mathematical Association of SA have organised a STEM conference for teachers of years 6-11. This one-day conference will provide high quality professional learning opportunities for teachers and educators, in the fields of science, mathematics, ICT and design and technology.

Workshop focus on STEM Education

The conference is designed to bring together teachers, educators and exhibitors who are interested in sharing and exploring tools, resources and related activities that will ensure successful implementation of STEM education into our schools and communities.

Some workshops will address the critical importance of connecting different areas of STEM by considering ways of interrelating science and/or mathematics topics using the tools of technology and engineering emerging through hands-on and real-life applications.

Other workshops will address activities to support teaching and learning in more specific topics in the disciplines of mathematics, science, design & technology and ICT.

Networking Opportunities

The conference will also provide an excellent opportunity for educators and teachers to exchange ideas about STEM teaching and learning and to maintain and develop valuable networks.

BOOK NOW!

The program and registration is available online at **www.sasta.asn.au**

STEM 6-11 Conference: Keynote Address

Using Science and Maths in Education?

The greatest challenge in education is finding ways to ensure meaningful student engagement. Science and maths present this opportunity. They are disciplines that are important lifelong skills, transferable to virtually any career and have a direct and profound impact on our current lifestyle. This presentation will explore how science and maths are taught and discuss what options now exist in a content rich world.

There are now many options where students direct their own learning and this provides a much greater level of ownership. We will explore how tailored study plans, now common in the US, ensure that students appreciate the relevance and usefulness of their programs and hence how the sector is providing the education and training required for successful careers. A new approach to deliver first year chemistry will also be discussed. Finally, a discussion of the integration of science and maths into the total curriculum will be examined.

Biography

Joe Shapter was appointed as a lecturer at Flinders University in 1996 and is now Professor of Nanotechnology. He has supervised many honours and Ph. D. students during my time at Flinders University and the work in his group has attracted over $ 20 million dollars in grants and seen the publication of 6 book chapters, over 200 refereed journal articles and over 50 refereed conference publications. He gives several invited presentations each year both on education and research at national and international meetings. He is the Technical Director of the Renewable Energy Research Program within the Centre for NanoScale Science and Technology based at Flinders University, was the Foundation Director of the Defence Science and Technology Organisation (DSTO) funded Centre of Expertise in Energetic Materials (CEEM) and is the director of the South Australian node of the Australian Microscopy and Microanalysis Facility (AMMRF).

Until recently he was also the Associate Dean (Teaching and Learning) for the Faculty of Science and Engineering at Flinders University and the Dean, School of Chemical and Physical Sciences at Flinders University. He was the key player in setting up the Nanotechnology degree at Flinders University and was an OLT National Fellow with the Fellowship focussing on study plans. He has won several awards for his teaching including the RACI Fensham Medal for Outstanding Contribution to Chemical Education in 2016.

Joe is a passionate science educator taking every opportunity to engage people with science both in the tertiary sector and outside it. He set up the pioneering undergraduate degree in Nanotechnology at Flinders University. The degree was innovative both in terms of the way it approached teaching science and the active ways in which students were given roles to help shape both their own education and the topic and course structure for students coming in following years. Additionally, time spent in the scientific work force was an integral part of the degree program. New practicals based on cutting edge science introduced students to new concepts and exciting scientific developments much earlier than was the norm previously.

SASTA Psychology Summer Conference

What can Psychology and Psychologists offer society?

Friday 19 January 2018
Education Development Centre, Hindmarsh

Program		
9.00am	**Conference Opening** Housekeeping and welcome	
9.15am	**Keynote Speaker:** What can Psychology and Psychologists offer society? Helping your students make good choices for the future	Dr Neil Kirby, The University of Adelaide
10.30am	**Morning Tea - Credit Union SA**	A word from our sponsors
10.45am	**SACE Examination and Moderation Review**	
12.00pm	**Concurrent Workshops 1** 1.1 Re-imagining undergraduate Psychology courses 1.2 Helping students make good choices – vocations, relationships, leisure 1.3 Writing good test questions (Stage 1)	 Lynn Ward TBA Carolyn Pinchbeck
1.00pm	**Lunch**	
1.30pm	**Concurrent Workshops 2** 2.1 Re-imagining undergraduate Psychology courses 2.2 Hands-on psychological tests for teachers and students 2.3 Personality	 Lynn Ward Dr Neil Kirby Tim Ridgway
2.30pm	**Concurrent Workshops 3** 3.1 Hands-on psychological tests for teachers and students 3.2 Personality 3.3 Writing good test questions (Stage 1)	 Dr Neil Kirby Tim Ridgway Carolyn Pinchbeck
3.30pm	**Conference Plenary**	

Dr Neil Kirby is a senior lecturer and Director of the Wellbeing Research Unit in the School of Psychology at the University of Adelaide. His research interests include disability and organisational psychology. Recent research projects associated with the Wellbeing Research Unit include the evaluation of a social skills training program for children with autism, the evaluation of the quality of life of people with disabilities in community residential settings and evaluating the work safety of Disability Support Workers. Dr Kirby teaches at undergraduate and postgraduate levels in the areas of disability and organisational psychology and he is currently Course Coordinator of the Master of Psychology (Organisational and Human Factors) program. He has co-authored books on Organisational Psychology and Organisational Culture.

Psychology Summer Conference: Keynote Address

What can Psychology and Psychologists offer society?

Dr Neil Kirby, The University of Adelaide

Psychology as a scientific discipline can help to provide an understanding of human behaviour and the thoughts and feelings that contribute to behaviour at the level of individuals, groups, organisations and society.

At each of these different levels, it takes an evidence based approach – quantitative and qualitative, experimental and observational – defining concepts and developing theories that can be tested and used as a basis for interventions to achieve competence and quality-of-life outcomes. A scientific psychology also evaluates the relative extent to which different interventions achieve or fail to achieve these outcomes.

There are two basic ways in which a scientific psychology can contribute to society. The first and more traditional contribution involves training professional psychologists to have expertise in dealing with specific aspects of behaviour, such as clinical psychologists, health psychologists, organisational psychologists, sport psychologists and educational psychologists.

The second contribution involves providing students in tertiary education and, more recently in secondary education, with psychological knowledge and skills that they can use in different kinds of jobs and in their personal lives.

For more than 100 years scientific psychology has evolved its evidence based interventions and associated professional training to, not only deal with problems in society, but also to facilitate changes in society designed to improve competence and quality of life outcomes. To maximise its capacity to deal with societal problems and achieve these outcomes, scientific psychology needs to not only continue to improve its evidence based interventions, but it also needs to continue to improve its associated professional and educational training.

Call for Workshop Presenters

SASTA Annual Conference & Expo 2018

Monday 16 & Tuesday 17 April 2018, Adelaide High School

SHARE your good ideas ... submit a workshop proposal for the conference!

Presenting workshops for your colleagues is an excellent way to share best practice and develop a community of educators across the State.

TAKE PART in a broad program of professional learning workshops for primary and secondary teachers, including laboratory and computer workshops, hands-on activities, seminars and discussions.

GAIN valuable experience in leading learning that will enrich your own professional standards.

Conference Themes

The Conference will address a range of the content and pedagogies of the Australian Curriculum: Science, however it will also incorporate the theme 'Spotlight on the Science in STEM'. Session attendees should be actively involved in the learning through a practical and investigative approach. Sessions that link to real world examples of contemporary science in STEM are encouraged.

Possible Workshop Ideas:

- Hands-on activities for primary, middle and senior school science teachers & laboratory officers;
- Use of technologies in teaching and learning;
- Integrated units of work of Science and Literacy etc;
- Ways of motivating students to consider science in their future careers;
- Improving students' confidence and experiences in Science.

Submit a proposal for the SASTA Annual Conference at www.sasta.asn.au by 31 January 2018.

Stage 2 Biology in 2018

Dr Kathy Adams

Now that 2017 has nearly come to an end and many of us have had an opportunity to teach the new Stage 1 Biology curriculum our attention now turns to the planning required for 2018, and how we will structure our Stage 2 courses.

The changes in the new course, should provide an opportunity for teachers to reinvigorate their teaching with topics and concepts that are relevant to our student's lives and contemporary in nature, with scope to develop critical and creative thinking skills with a focus on problem solving.

With the inclusion of four topics: DNA and Proteins, Cells as the basis of life, Homeostasis and Evolution, there are some significant changes in the content of the Stage 2 course. There are also some changes to the assessment requirements of the course. The assessment types have not changed, but the weighting of the school assessment Investigations Folio and Skills and Applications Tasks have been altered, where they are now worth 30% and 40% respectively.

New assessment requirements include the need for students to deconstruct a problem and design a method for which the outcome is uncertain. The deconstruction component, puts more emphasis on important science inquiry skills, including skills around analysis and evaluation and could be represented in various ways, but students will need to provide their evidence on one single summary page. In addition, students are required to do one SHE task where students explore a topic of choice, related to an aspect of the subject outline content to demonstrate their understanding for how science and society interact. The SHE task has particular requirements at Stage 2 where the relevant biology is linked to one of the SHE key concepts and students consider the impact of their chosen topic on society. Finally, there is scope for teachers to design new Skills and Applications tasks that are both relevant and rigorous that are not tests, to better enable students to demonstrate their deeper understanding of concepts assessed in alternative ways.

Cells as the basis of life closely resembles the current Cells theme, with a few changes in emphasis of some concepts. For example students need to know the structure and function of some additional organelles, facilitated diffusion and the names of the phases of mitosis and meiosis. The remainder of the topic focuses on the structure and function of the basic unit of life, the cell, fundamental knowledge for any biology student.

The remainder of the topics have some significant new content inclusions, based on the ACARA senior sciences curriculum for Biology and emerging concepts from current biological research that students should have an opportunity to learn. Topic 1: DNA and Proteins has new concepts involving gene expression, epigenetics and cutting edge technologies including gene editing by CRISPR. These inclusions will provide exciting teaching and learning opportunities with many practical activities possible as well as the use of the many online resources available. Topic 3: Homeostasis has a focus on human biology, where students learn the importance of tolerance ranges and what the consequences are to the human body when these are not maintained. Students will analyse the homeostatic processes controlling blood sugar levels (and diabetes), osmoregulation, the fight or flight response and carbon dioxide concentration. In the final topic, Evolution, students will be required to know about different models of evolution, and make comparisons between these, for example to compare allopatric and sympatric evolution.

In 2018, in classrooms throughout South Australia and other regions, the new Stage 2 Biology course will be taught for the first time. It is a time for both teachers and students to have an opportunity to teach and learn different concepts of Biology, that are exciting, up to date, emerging and relevant to our lives today. Society needs to have members who have scientific/biological understanding. Therefore this is becoming an increasingly important aspect of our graduating student's knowledge so that they may engage in research or public debate to find solutions to various biological issues. This new course has the potential to plant some of these key science understandings.

2017 SASTA Oliphant Science Awards

Congratulations to all students who completed entries and to the major prize winners!

Ms Monica Oliphant presented the prestigious **Oliphant Trophy** to Ms Amber Washington from Norwood Morialta High School for her Games entry 'Race to Save the Planet' at the presentation ceremony held on Friday 22 September at the Brighton Secondary School Concert Hall.

Platinum Sponsor Prizes

DECD Young Scientist

Primary

1st Keagan Wallace – Scotch College
1st Danae Angelopoulos – Walford Anglican School for Girls
2nd (Equal) Samarbir Singh – St Andrew's School
2nd (Equal) Toby Trenwith – Virginia Primary School
2nd Clara Mills – Bellevue Heights Primary School
3rd Priyanka Thavarajah – Seymour College

Secondary

1st Idris Kellermann Williams – Glenunga International High School
1st Amber Washington – Norwood Morialta High School
2nd James Liang –Brighton Secondary School
2nd Josephine Oehler – Seymour College
3rd Medhir Kumawat – Glenunga International High School
3rd Heather Button – Urrbrae Agricultural High School

Rowe Scientific Country School

R-7 Memorial Oval Primary School
8-12 Coober Pedy Area School

Gold Sponsor Prizes

DSTG Secondary School

8 – 10

1st Walford Anglican School for Girls
2nd Glenunga International High School

11 – 12

1st Glenunga International High School
2nd (Equal) Brighton Secondary School
2nd (Equal) Urrbrae Agricultural High School

Silver Sponsor Prizes

Australian Institute of Energy

R-2 Megha Wijewardane – Woodcroft College
3-5 Giselle Wright – Highgate School
6-7 Trishna Ramkumar – Wilderness School
8 Dylan Worswick & Timothy Naylor – Pembroke School
9-10 Amber Washington – Norwood Morialta High School

CSIRO Education

CREST Schools
Mawson Lakes School

Non-CREST Schools
Walford Anglican School for Girls & Glenunga International High School

Catholic Education SA

1st Walford Anglican School for Girls
2nd Mawson Lakes School

Flinders University - School of the Environment

8 Bradley Daniel – Westminster School

Flinders University – Faculty of Science

9-10 Sophie Davidson – Walford Anglican School for Girls

Mobile Science Education

6-7 Toby Trenwith – Virginia Primary School
8 Bradley Daniel – Westminster School

Nature Foundation SA

6-7 Inika Weber – Mawson Lakes School
9-10 Amber Washington – Norwood Morialta High School

Primary Industries Education Foundation Australia

6-7 Michael Zhang, Victor Chey & Sophie Halikiopoulos – East Marden Primary School
9-10 Amber Washington – Norwood Morialta High School

The University of South Australia

3-5 Ruby Blackwood & Isabelle Webb – Mawson Lakes School
8 Scarlett Griffiths – Emmaus Christian College

Bronze Sponsor Prizes

Australian Institute of Physics

3-5 Eugene Lee – Mawson Lakes School

Australian Society of Biochemistry & Molecular Biology

8 Vasja Lazarevich – Walford Anglican School for Girls

Collison & Co

9-10 Amber Washington – Norwood Morialta High School

Royal Australian Chemical Institute

8 Cameron Coggins & Joshua Woodley – Emmaus Christian College

The University of Adelaide: Faculty of Engineering, Computer & Mathematical Sciences

11-12 Idris Kellermann Williams – Glenunga International High School

The University of Adelaide: Faculty of Sciences

11-12 Heather Button – Urrbrae Agricultural High School

A special thank you to all our Sponsors, Committee Members, Presenters and Volunteers who contributed to this year's event!

Topics for 2018?

Have you got any good ideas for project titles? We need topics for the Scientific Writing, Poster and Photography categories.

Contact us with your suggestions at office@sasta.asn.au by 9 November 2017.

To Find Out More or Get Involved:

Visit **www.oliphantscienceawards.com.au** to download the complete 2017 Presentation Ceremony booklet with all the winners from this year's competition! You can also watch our Oliphant Science Awards Video, view past event photos, register as a judge or volunteer, or simply find out more about the competition all online!

Like us on Facebook!
www.facebook.com/oliphantscienceawards

Open Day 2017

This year's Open Day event was held on Sunday 27 August at Festival Functions.

The event saw over 1400 visitors attend and enjoy a wide range of Science Spectacular Shows, Come & Try activities, and large project display including all the prize winning projects from the 2017 competition!

Year 8 & 9 Practical Investigation Workbooks

SASTA South Australian Science Teachers Association

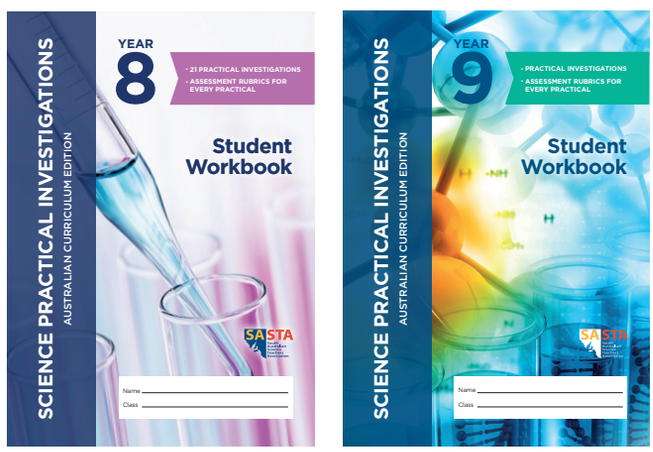
The SASTA Practical Investigations Resources are student workbooks written to support the Australian Curriculum: Science for Year 8 and 9

These workbooks contain new, up-to-date, engaging and innovative science practicals in an easy to use design. These write-in workbooks guide students through each investigation, encouraging them to practice and enhance their inquiry skills, design procedures and answer questions about their learning. Each practical investigation comes complete with an assessment rubric to allow teacher feedback on student learning.

These items have a minimum order of 20 copies per title as it is a student write-in workbook and not a blackline master.

Features:

- Science Investigations that comprehensively explore the content of Biological sciences, Chemical sciences, Earth and Space sciences and Physical sciences for the Year 8 or 9 Australian Curriculum.
- Explanations of how to work scientifically, including; manipulating variables, graphing and measurement.
- An emphasis on Science Inquiry Skills.
- Australian Science Curriculum overview that highlights the context explored in each of the three standards; Science Understanding, Science as a human endeavour and Science Inquiry skills.
- Assessment rubrics for each practical giving an A - E scale for assessing the Science Inquiry skills.
- Consistent, easy to use format.



Cost: $18.50 (including GST) per book

Minimum order of 20 copies

Sample pages are available at www.sasta.asn.au

SCIENCE INVESTIGATIONS RESOURCE

What if..... we do Science?

Helen Silvester

- **Over 50 unique Science investigations!**
- **Easy to use student worksheets ready to photocopy**
- **Ideal for use as assessment tasks**
- **Aligned directly to the Australian Curriculum: Science**
- **Highlights the Science Inquiry Skills**
- **Year 5 and 6 resources currently available**

Order now from SASTA at the price of $55 incl. GST

www.sasta.asn.au

Science Resources

SASTA SACE Stage 1 Workbooks

SACE Stage 1 Biology, Chemistry and Physics workbooks adapted for the Australian Curriculum, $49 each

SASTA's workbooks have been written to align with the new SACE Stage 1 curriculum. They contain all new original questions for students. The SASTA resource covers all topics outlined in the SACE curriculum in an easy to read format and will be printed in colour and rich with illustrations and diagrams to enhance learning. **Sample chapters are available at www.sasta.asn.au**

- Over 300 full colour illustrations & diagrams;
- Over 100 original questions in each book;
- Over 250 problems with worked solutions;
- Questions range from simple to challenging;
- All questions are mapped to the new performance standards for Stage 1 & 2; and
- Topic test for each chapter

Order online at www.sasta.asn.au

For schools preferring to use a purchase order, simply fax your purchase order (including postage of $11 flat fee plus $1 per book ordered) to 08 8354 0008 or email it directly to Rebecca at office@sasta.asn.au.

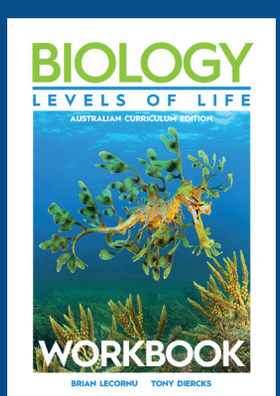
Biology Levels of Life

Brian LeCornu and Tony Diercks

Biology Levels of Life - Australian Curriculum Edition Textbook

BILOL.S2.TB $59.95

This textbook is from the authors of the popular Biology: Levels of Life materials, used by teachers and students since 2000. It provides detailed coverage of all the content (Science Understanding) of the Biology subject outline to be taught at Stage 2 from 2018. The new content is relevant, up-to-date and addresses **Science as a Human Endeavour**, with many examples throughout. It is attractively presented in full colour with numerous links to videos, animations, and useful resources. The textbook is divided into four topics, with each topic presented in chapters designed to make the material easy to follow, with study questions at the end of each chapter



Biology Levels of Life - Australian Curriculum Edition Workbook

BILOL.S2.WB $23.50

This workbook has been written specifically to complement the textbook. It covers all Science Understandings of the Biology subject outline and can be used in conjunction with the textbook or it can be used effectively on its own as an aid for understanding and revision. By completing answers to the workbook questions, students will develop their knowledge and understanding of biological principles and concepts relevant to the course. **Available late Term 4.**

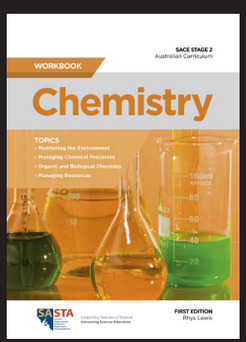
Stage 2 Science Workbooks for 2018

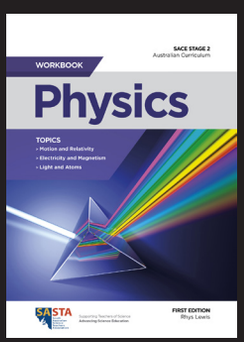
SACE Stage 2 Biology, Chemistry and Physics workbooks adapted for the Australian Curriculum, $55 each

SASTA's workbooks are a **brand new resource** written for the launch of the new SACE Stage 2 Curriculum. They are a student text and workbook that covers all content of topics outlined in the new curriculum in an easy to read format and will be printed in full colour. **Sample pages are available at www.sasta.asn.au**

Each workbook contains:

- A complete explanation of all theory outlined in the subject outlines for 2018;
- All questions are mapped to the new performance standards for Stage 2;
- Over 300 full colour diagrams;
- Over 700 contextual questions with fully worked solutions;
- Questions range from simple to challenging and are designed to prepare students for assessment tasks; and
- Review test for each chapter.





For more details and to order visit www.sasta.asn.au

2018 SASTA Study Guides

All SASTA Study Guides are $28 each, available early in Term 2

Biology

Chemistry

Nutrition

Physics

Psychology

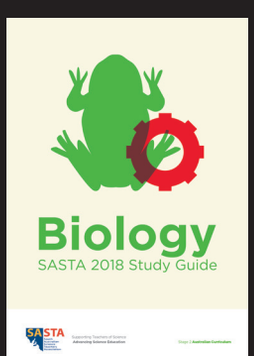
The Biology, Chemistry and Physics study guides have been rewritten for 2018 to align to the new SACE Stage 2 Curriculum.

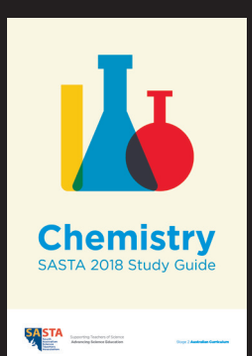
SASTA Study Guides (approx. 250 pages) are the complete resource for students preparing for Year 12 SACE Board of SA exams. These guides include questions with worked solutions covering each topic in the Subject Outline and address all sections of the exam.

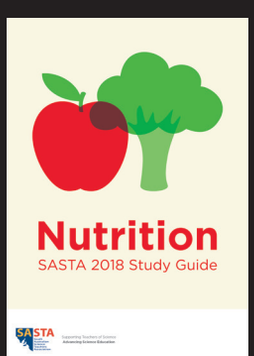
Copies of the 2017 SASTA Study Guides, including exam answers, are available for $15.00.

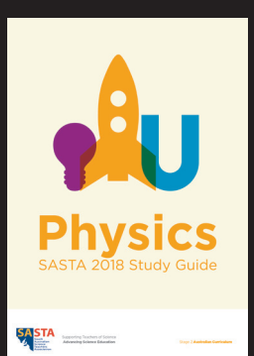
Please fax school purchase orders to 8354 0008 or email to office@sasta.asn.au or order online at www.sasta.asn.au

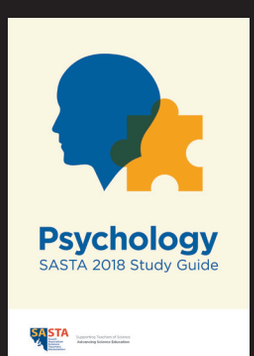
Inquiries concerning resources can be answered by the SASTA office by telephoning 8354 0006 or email office@sasta.asn.au











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South Australian Science Teachers Association

Supporting Teachers of Science
Advancing Science Education

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